

# CLAIMS

1. A method of providing an arbitrary sound as an RBT (RingBack Tone) in a communication network where flexible paging is conducted for a called terminal, comprising:

5 a first step, conducted respectively by both exchangers, of checking whether first information on replacing RBT or not and second information informing a route to a sound providing means has been stored for the called terminal, when an originating exchanger requests a trunk connection to said both exchangers  
10 according to a flexible paging procedure, and receiving the first and the second information from an HLR (Home Location Register) after requesting if said information has not been stored, and requesting a trunk connection to the sound providing means while furnishing information identifying the called, based on the  
15 already-stored or the received first and the second information;  
a second step, conducted by the sound providing means, of determining an RBT-replacing sound based on the called-identifying information, and transmitting the determined RBT-replacing sound to the originating exchanger through two paths made respectively  
20 by way of said both exchangers; and

a third step, conducted by the originating exchanger, of selecting one path of the two, and delivering the determined RBT replacing sound received through the selected path to a caller.

2. The method of claim 1, wherein the originating exchanger  
25 selects one path of the two that is connected to one of said both exchangers that responded first to the trunk connection request of the originating exchanger.

3. The method of claim 1, wherein said both exchangers conduct paging of the called terminal individually, and the originating  
30 exchanger maintains the trunk connection made to one of said both exchangers whose paging is accepted first by the called terminal

and releases remaining trunk connection to the other exchanger.

4. The method of claim 1, wherein each of said both exchangers requests release of the trunk connection made to the sound providing means when a call is answered by the called terminal and the sound  
5 providing means releases the trunk connection in response to each of the release requests.

5. The method of claim 1, wherein the sound providing means determines the RBT-replacing sound specified for the called through communication with a storager controller operating based on  
10 internet protocol.

6. The method of claim 5, wherein the storager controller changes a sound code of an RBT-replacing sound specified for the called with another code through communication with a web server operating based on internet protocol.

15 7. The method of claim 6, wherein said another code is a code related with already stored RBT-replacing sound in the sound providing means or is a newly-assigned code for newly stored sound after received from the web server.

8. The method of claim 7, wherein, after being connected to  
20 the sound providing means and the storager controller, the web server changes the RBT-replacing sound based on subscriber identifying information entered through an input web page.

9. The method of claim 1, wherein the first information is set based a special key information received from the called  
25 terminal.

10. The method of claim 1, wherein the first and the second information are included in a response message to a location registration request message, the response message being sent from the HLR to the call-terminating exchangers.

30 11. The method of claim 1, wherein the first information is written in a reserve field allocated in value-added service parameters of subscriber's profile.

12. The method of claim 1, wherein a message to request the

trunk connection to the sound providing means from both exchangers further includes information identifying the caller.

13. The method of claim 12, wherein the information identifying the called and the caller is telephone numbers of the  
5 called and the caller, respectively.

14. A method of processing location registration in an HLR (Home Location Register) to provide an arbitrary sound as an RBT (RingBack Tone) in a communication network where flexible paging is conducted for a called terminal, comprising the steps of:

10     furnishing a first exchanger with first information on whether or not RBT is to be replaced for a terminal and second information informing a route to a sound providing means, when location of the terminal is registered through the first exchanger, and retaining a second exchanger as previous location of the  
15 terminal, the second exchanger having served the terminal before; requesting routing information to the first and the second exchanger based on the registered and the retained location information of the terminal when location request for the terminal is received from an originating exchanger, and providing the first  
20 and the second information for the second exchanger; and delivering all of routing information received, in response to the routing information request, from the first and the second exchanger to the originating exchanger as a response to the location request.

25     15. A method of processing location registration in an HLR (Home Location Register) to provide an arbitrary sound as an RBT (RingBack Tone) in a communication network where flexible paging is conducted for a called terminal, comprising the steps of:  
retaining a second exchanger as previous location of a  
30 terminal when location of the terminal is registered through a first exchanger, the second exchanger having served the terminal before; requesting routing information to the first and the second exchanger based on the registered and the retained location

information of the terminal when a location request for the terminal is received from an originating exchanger, and providing both of the first and the second exchanger with first information on whether or not an RBT is to be replaced for the terminal and second  
5 information informing a route to a sound providing means; and delivering all of routing information received, in response to the routing information request, from the first and the second exchangers to the originating exchanger as a response to the location request.

10 16. A method of providing an arbitrary sound as an RBT (RingBack Tone) in a communication network where flexible paging is conducted for a called terminal, comprising:

a first step, conducted by an HLR (Home Location Register), of furnishing a first exchanger and a second one with first  
15 information on whether or not an RBT is to be replaced for a terminal and second information informing a route to a sound providing means, when location of the terminal is registered through the first exchanger, wherein the second exchanger is registered as previous location of the terminal;

20 a second step, conducted respectively by the first and the second exchanger which are individually requested by an originating exchanger to make a trunk connection to the originating exchanger according to a flexible paging procedure, of requesting the sound providing means to make a trunk connection therebetween while  
25 furnishing information identifying the terminal, based on the first and the second information furnished from the HLR;

a third step, conducted by the sound providing means, of determining an RBT-replacing sound based on the terminal-identifying information, and transmitting the determined  
30 RBT-replacing sound to the originating exchanger through two paths made respectively by way of said both exchangers; and

a fourth step, conducted by the originating exchanger, of selecting one path of the two, and delivering the determined RBT

replacing sound received through the selected path to a subscriber who calls the terminal.